A Study on Video Shot Boundary Detection and Its Applications

A shot boundary detection (SBD) algorithm and ashot classification scheme on soccer video shotsare proposed here.The SBD algorithm is based on frame-distancehistogram. An adaptive morphological opening isapplied to the frame distance in compliance withthe acute level of a shot to solve the indistinctnesson gradual transitions. Applying the SBDalgorithm on a soccer video, the algorithmproceeds to shot classification as long, medium,and close-up or other shots. The classificationalgorithm is based on the grass ratio which iscalculated with motion and color features withoutthe need of pre-training or updating.Our SBD and classification algorithms aretested on various types of videos and soccer videoshots with excellent results.